

REMARKS:

- 1) A Request for Continued Examination (RCE) is being filed and the respective fee paid simultaneously with the present Response to the Final Office Action of March 23, 2006. A one-month Term Extension Request is also being filed with these papers. The fee for the one month term extension and RCE filing fee are being paid by the enclosed fee payment form PTO-2038. A separate IDS is also being filed simultaneously with the just listed papers.
- 2) The editorial amendments in the specification do not contain any new matter.
- 3) The new claims 33 to 59 are based on the original claims and/or the specification and/or the drawing as follows:  
Independent method claim 33 is based on claims 1, 19, 20, 21 and the specification page 10, line 22 to page 11 line 1.

<b>New claims</b>	33	34	35	36	37	38	39	40	41	42	43
<b>Orig. Claims</b>	see above	2	3	4	5	6	7	8	9	10	11

<b>New claims</b>	44	45	46	47	48	49	50	51	52	53
<b>Orig. Claims</b>	12	13	14	15	16	17	18	see below	24	22

<b>New claims</b>	54	55	56	57	58	59
<b>Orig. Claims</b>	25	see below	see below	see below	see below	see below

Claim 51 is based on claim 19 and on the specification page 5, lines 4 to 8.

Claim 55 is based on specification page 8, lines 1 to 3.

Claim 56 is based on claims 1, 20 and 21 plus the drawing plus the specification page 10, line 22 to page 11 line 2.

Claim 57 is based on the drawing plus the specification page 8, lines 12 to 20.

Claim 58 is based on the drawing plus the specification page 8, line 21 to page 9 line 2.

Claim 59 is based on the specification page 11, lines 1 and 2.  
New claims 33 to 59 do not contain any new matter.

- 4) With regard to form PTOL-326 dated August 2, 2005 and March 23, 2006 item 10 respectively, the Examiner is respectfully requested to indicate whether the originally filed drawing is acceptable or not.
- 5) Referring to page 2 of the Office Action of March 23, 2006, the withdrawal of previous claims 27 to 32 from consideration in the parent case is respectfully traversed. Applicants realize that the prosecution of the present RCE application will be based on new method claims 33 to 55. However, new apparatus claim 56 has been drafted as a linking claim by making claim 56 dependent on main method claim 33. Thus, the apparatus of claim 56 is limited to "performing the method of claim 33". Claims 57, 58 and 59 are dependent from the linking claim 56. Therefore, it is respectfully requested to examine all claims 33 to 59 in the present RCE application.

- 6) The rejection of claims 1 to 26 under 35 U.S.C. 103(a) in view of US Patent 6,736,867 B2 (Varadaraj et al.) taken in the light of US Patent 5,747,185 (Hsu) is respectfully traversed for the following reasons. The invention aims at efficiently using waste water produced for example in an aircraft for preparing fuel for a high temperature fuel cell forming part of the entire power plant of the aircraft, thereby avoiding carrying additional clean water in the aircraft. Such effort is feasible if the equipment needed for the fuel preparation is lighter than the needed extra water. The present method steps make it possible to be performed on board of an aircraft because the invention minimizes the number of required equipment components and their weight.
- 7) New independent method claim 33 combines original claim 1 with features of claims 19, 20 and 21 as well as the disclosure of the original specification page 10 line 22 to page 11 line 1, which refer to two concentrically arranged pipes which form a gap in which the gap-electrolysis is performed. According to the new claim 33 the prepared emulsion is directly fed, following the emulsifying step, to the gap between the two concentric pipes one of which is connected to an anode of a d.c. power source while the other pipe is connected to a cathode of the d.c. power source. Further, according to step (e) of claim 33, the emulsion or rather any molecular bindings of organic compounds in the emulsion are electrolytically cracked in the gap between the two concentric pipes (16).

- 8) Neither the sequence and combination of steps nor the equipment combination now more clearly recited in independent claim 33 and in dependent claim 55, respectively, are disclosed in the primary reference Varadaraj et al. Varadaraj et al. do not start with waste water. Varadaraj's reformer 11 does not perform any electrolytic cracking step in a gap. These two facts alone support applicant's position that Varadaraj et al. does not make obvious the now more clearly claimed invention.
- 9) More specifically, in the Response dated December 1, 2005 sections 16 and 17, the Applicant shows with regard to the features of claims 19, 20 and 21 which are now included with other features in new independent method claim 33 that these features are not suggested by the combination of Varadaraj et al. seen in the light of the disclosure of Hsu because neither of these references teaches cracking molecular bindings in the emulsion by passing the emulsion directly downstream of the emulsifier through an electric gap between two concentrically arranged pipes. In the Final Rejection the Examiner has not explained why these facts in the previous Response such as in sections 16 and 17 are not persuasive. Neither Varadaraj et al. nor Hsu mention anything regarding performing a gap electrolysis for the cracking of the molecular bindings directly following the emulsification. Therefore, the Examiner is respectfully requested to consider the entirety of the remarks that have been previously presented.

- 10) Referring to page 4 of the Final Rejection the Examiner's remarks regarding section 8 of the Applicants' Response of December 1, 2005 is not understood. It is not relevant where the disclosure of Hsu includes catalytic material be it in the electrodes and/or in the cell itself for making his fuel cell tolerant to sulfur containing fuels, please see e.g. Hsu's abstract. The aim of Hsu is to build a high temperature fuel cell which is itself tolerant to sulfur and sulfur compounds containing fuels. This is clear from the very passage cited by the Examiner, namely column 6 last paragraph and column 7 first paragraph where it is said that the fuel cells of Hsu is preferably tolerant to sulfur levels of up to 50 parts per million and in excess of that level and significantly in excess of this level. The invention deals with the sulfur content of the fuel outside the fuel cell not inside the fuel cell. Therefore it is not understood why the Examiner emphasizes this point. The present fuel cell does not require a construction that is tolerant to sulfur containing fuels because the invention teaches removing sulfur components from the fuel, namely the emulsion, prior to feeding the fuel into the fuel cell.
- 11) The Examiner's remarks regarding section 5 of the Applicants' previous Response is correct. However, one must not overlook, that the present invention uses the waste water including toilet water or so-called black water in an aircraft for the present purposes. Neither Varadaraj et al. nor Hsu disclose anything in this respect. Claim 33 in step b refers expressly to collecting and preparing waste water to provide prepared waste water

suitable for use in said high temperature fuel cell. None of the references discloses such a step. Please see Varadaraj et al. col. 4, lines 47 to 49 and col. 7, line 29.

12) The foregoing remarks also support the patentability of the present linking claim 56 and claims 57, 58 and 59 dependent on the linking claim 56.

13) Favorable reconsideration and allowance of the application, including all present claims 33 to 59, are respectfully requested.

Respectfully submitted,  
Claus HOFFJANN et al.  
Applicant

WGF:sk/4532  
Enclosures:  
Transmittal Cover Sheet;  
Term Extension Request;  
Request for Continued Exam.;  
Form PTO-2038  
IDS, Form 1449, 4 ref., 3 abst.;  
post card

By W. G. Fasse  
Wolfgang G. Fasse  
Patent Attorney  
Reg. No.: 21187  
Tel. 207-862-4671  
Fax. 207-862-4681  
P. O. Box 726  
Hampden, ME 04444-0726

CERTIFICATE OF MAILING:

I hereby certify that this correspondence with all indicated enclosures is being deposited with the U. S. Postal Service with sufficient postage as first-class mail, in an envelope addressed to: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450 on the date indicated below.

W. G. Fasse  
Name: Wolfgang G. Fasse - Date: July 20, 2006